

## REMARKS

Claims 1-17 are pending.

In paragraph 2 on page 2 of the Office Action, claims 1-8 and 13-17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Pinarbasi. In paragraph 4 on page 3 of the Office Action, claims 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Pinarbasi in view of Gill.

In paragraph 6 on page 5 of the Office Action, claims 1-8 and 13-17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ohsawa et al. In paragraph 8 on page 5 of the Office Action, claims 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa et al. In paragraph 9 on page 7 of the Office Action, claims 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa et al.

Applicant respectfully traverses the rejections. Applicant respectfully submits that the cited references fail to disclose, teach or suggest Applicant's invention as recited in the claims.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Pinarbasi, Gill and Ohsawa et al., alone or in combination, fail to disclose, teach or suggest "selecting the ratio of the first thickness of a first free layer and second thickness of a second free layer to provide a desired magnetostriction as recited in independent claims 1, 5, 9, 11, 13, 15 and 17.

The Office Action states that Pinarbasi describes a sensor having a first and second free layer. The Office Action states that the first and second free layer inherently have a thickness.

The Office Action also states that the free layers have a magnetostriction. Thus, according to the Office Action, the ratio of the thickness of the first free layer thickness to the second free layer thickness is inherently selected to provide a desired magnetostriction.

However, Pinarbasi does not teach the limitation of selecting a thickness for the first or the second free layer. Moreover, even if Pinarbasi is held to inherently teach that a thickness for the first and the second free layer is selected, Pinarbasi fails to suggest that the "ratio" of the thickness for the first free layer to the thickness of the second free layer is "selected" to provide a "desired magnetostriction."

Pinarbasi does not even mention the term or concept of "ratio."

Pinarbasi never mentions nay desire for a a free layer structure to have a particular magnetostriction.

Pinarbasi fails to suggest that the magnetostriction is a factor that needs to be selected.

Pinarbasi fails to suggest that the magnetostriction can even be selected by selecting a ratio for the thickness of the first and seocond free layer.

Pinarbasi is simply not concerned with the setting of the magnetostriction of the free layer structure.

Because Pinarbasi does not teach, disclose or suggest selecting a ration for the thickness of a first free layer and a thickness of a second free layer to provide a desired magnetostriction, Applicant's invention is patentable over Pinarbasi.

Gill fails to overcome the deficiencies of Pinarbasi. Gill is merely cited for teaching a magnetoresistance detector. As with Pinarbasi, Gill does not teach, disclose or suggest selecting a ratio for the thickness of a first free layer to a thickness of a second free layer to provide a desired magnetostriction.

Therefore, Gill and Pinarbasi, alone or in combination, fail to teach, disclose or suggest selecting a ratio for the thickness of a first free layer and a thickness of a second free layer to provide a desired magnetostriction.

Ohsawa et al. fail to overcome the deficiencies of Pinarbasi and Gill. However, as with Pinarbasi, Ohsawa et al. fail to even mention selecting a ratio for the thickness of a first free layer and a thickness of a second free layer. Further, Ohsawa et al. fail to even mention that such a ratio may be selected to provide a desired magnetostriction.

The Office Action stated that Applicants do not disclose the ratio and what the desired magnetostriction is. However, such parameters are left to the designer so that designer can tailor the sensor to meet different operating conditions. Rather, Applicants recognized that the ratio could be adjusted to selected a desired magnetostriction. Thus, Applicants are entitled to the broad concept of selecting a ratio for the thickness of a first free layer to a thickness of a second free layer to provide a desired magnetostriction.

Accordingly, Applicants respectfully submit that independent claims 1, 5, 9, 11, 13, 15 and 17 are patentable over Ohsawa et al., Gill and Pinarbasi.

Dependent claims 2-4, 6-8, 10, 12, 14 and 16 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims 1, 5, 9, 11, 13 and 15 respectively. Further dependent claims 2-4, 6-8, 10, 12, 14 and 16 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 2-4, 6-8, 10, 12, 14 and 16 are patentable over the cited references.

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On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

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